

ABSTRACT

A method and apparatus for trapping AlCl_3 from an aluminum etch effluent includes a housing containing disposable trapping medium with a first trapping stage and a second trapping media positioned radially outward and axially downward, respectively, from the strap inlet at respective distances to take advantage of differences in heat exchange efficiencies between the trapping media and solid AlCl_3 build-up on the trapping media and of resulting changes in partial vapor pressure of AlCl_3 adjacent condensation surfaces as solid AlCl_3 build-up occurs to initially induce condensation and build-up near the inlet, but then preferentially flow vapor to more distant trapping media as build-up occurs before the build-up clogs the inlet. The first stage trapping media has less surface density than the second stage trapping media, so that the first stage trapping media collect more than half, preferably 90 - 95% of the AlCl_3 vapor with the media at ambient temperature, and so that the second stage trapping media remove the remaining AlCl_3 vapor with the media at ambient temperature.

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